

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1.-13. (CANCELED)

14. (CURRENTLY AMENDED) A polymeric foam comprising:
a polymeric matrix; and
a plurality of multifunctional microcapsules distributed in the polymeric matrix,
the microcapsules including a functional core material that provides a flame retarding
function surrounded by a layer of a functional shell composition that provides at least one
of fire retarding, flame suppressing, conductivity modifying, thermal stabilizing or
insecticidal functions.

15. (CURRENTLY AMENDED) A The polymeric foam according to claim 14,
wherein:

the functional core material includes a major portion of flame retardant; and
the functional shell material includes a major polymeric component and a minor
functional additive component.

16. (CURRENTLY AMENDED) TheA polymeric foam according to claim 1415,
wherein:

the polymeric foam-matrix includes a-polystyrene; and
the microcapsules have a median diameter of less than 5 μm .

17. (CURRENTLY AMENDED) A polymeric foam according to claim 1415,
wherein:

the major polymeric component includes at least one or more materials selected from a group consisting of melamine formaldehyde, polyvinyl alcohol, polyester and polycarbonate; and

the minor functional additive component includes at least one or more materials selected from a group consisting of fire retardants, flame suppressors, conductivity modifiers, thermal stabilizers and insecticides.

18. (CURRENTLY AMENDED) A-The polymeric foam according to claim 1415,
wherein:

the flame retardant is includes one or more materials selected from a group consisting of HBCD, DCP, BE-51 and, TPP and mixtures thereof; and

the major polymeric component is includes melamine formaldehyde and the minor functional additive component includes zinc borate.

19. (CURRENTLY AMENDED) A-The polymeric foam according to claim 1415,
wherein:

the microcapsules account for between about 0.25 and about 10 weight percent of the polymeric foam; and

the microcapsules have a median diameter no larger than about 5 microns.

20. (CURRENTLY AMENDED) A-The polymeric foam according to claim 1415,
wherein:

the flame retardant is includes one or more materials selected from a group consisting of HBCD, DCP, BE-51, and TPP and mixtures thereof; and

the major polymeric component includes is a polyurethane and the minor functional additive component includes zinc borate.